

# DCN WL8200-X10 Wireless AP Operation Manual

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# **1** Preface

#### **1.1 Manual Description**

This manual mainly helps users use AP products correctly with the three working modes of AP.

- FIT AP Mode
- > FAT AP Bridge Mode
- > FAT AP Routing Mode

This manual takes the WL8200-X10 as an example for configuration. Because there are certain differences in hardware and software specifications for each model, all issues involving product specifications need to be confirmed with Yunke China Information Technology Limited.

#### **1.2 Conventions**

In this manual,

- > For nouns such as buttons on the page, use "" to indicate them, such as "Edit";
- > Use >> to indicate the sequence of entering the configuration interface, such

as "first-level menu" >> "second-level menu";

This manual also uses various eye-catching signs to indicate places that should be paid special attention to during operation. As following:

Caution & Attention: Remind the matters needing attention in the operation, and improper operation may cause the setting to be invalid, data loss or equipment damage.

Instructions & Tips: Make necessary additions and explanations to the description of the operation content.

# **2 AP Basic Operations**

#### 2.1 WEB Login

Use POE (or local power) to charge the AP, connect the network port of the management computer to the AP's LAN port (or the management host connects to the AP's WLAN wirelessly), open the browser (recommended: Google, Firefox or IE11) and enter the management IP address on the LAN side (the default is https://192.168.1.10) to access the web configuration interface of the wireless AP. The default login user name is admin, and the password is admin.



Recommended use: Chrome, Firefox, 360 browser (extreme mode) or more than IE11 browsers.

If the AP has no LAN port or no wired client, you can use the wireless client to connect to the AP's SSID (the default is DCN\_WLAN) to access the AP.

If the network accessed by the AP has a DHCP server, the address of the AP may be obtained dynamically. In this situation, the user should access the current IP address of the AP.

#### 2.2 AP Mode

After logging into the AP's WEB page, if you want to switch to a certain mode, you can switch to the specified mode by clicking "AP Mode" on the left menu. As following:

DCN	i≡	0	Fit Mode	admin	Logout
G Running Status	Running Status AP Mode ×				
B AP Mode	AP can work in two modes: Fat Mode or Fit Mode. In the Fat Mode, AP exists as an independent entity in the netwo through AC. The Fat Mode can be broken down into two specific modes - Route Mode and Bridge Mode. If AP is us	k. In Fit ed as ga	Mode, you can r ateway device.pl	nanage it ease sele	ct
💮 System Settings 🔻	Route Mode; if AP is used as bridge device, please select Bridge Mode. The default is Fit Mode. If you want to chan	ge it, clio	k the Edit buttor	1.	
🖾 Statistics 🗸 🗸	AP Mode Switch Prat Mode				
💥 System Maintenance 🕶	Save Return				

#### 2.3 Running Status

After logging into the system, the homepage displays the system running status, including device information, network information, wireless information and system resource status. Ticking "Turn on Auto Refresh" in the system resource status panel, the interface will display the CPU utilization and memory utilization in real time, and refresh every 5 seconds.

DCN	≡	China(CN)	Fit Mode
Running Status	Running Status		
AP Mode	> Device Information > Network Information		
<ul> <li>System Settings </li> <li>Statistics </li> </ul>	> Wireless Information		
💥 System Maintenance 🔻	System Resource Status     Turn on Auto Refresh		
	100% 100%	s 55s 60s	
	CPU Utilization (the last 1 minutes) Memory Utilization (the last 1 minutes)		

#### **2.4 Statistics**

The statistics contains three parts: flow statistics, radio statistics and client statistics.

#### 2.4.1 Flow Statistics

Flow Statistics interface shows the message sent and received by different SSIDs.

As following:

Padio	MAC Address	Status	Mode	Channel Pandwidth/MUZ)	Channel	Channel Utilization(%)	Transmit Power(dBm)	Transmit		Receive	
Naulo			MOOD	Chainer Danowour(writz)				Total Packets	Total Bytes	Total Packets	Total Bytes
2.4G	00:03:0F:CC:BE:90	Enabled	11ng	HT20	1	81	23	1189	494886	0	0
5G 1	00:03:0F:CC:BE:A0	Enabled	11ac	HT40+	52	2	29	1076	604342	430	56641
5G 2	00:03:0F:CC:BE:B0	Enabled	11ac	HT40+	149	16	23	342	90388	138	25744

#### 2.4.2 Radio Statistics

Radio statistics interface displays different radio statistics sending and receiving

message information from radio statistics perspective. As following:

Dadio	MAC Address	Status	Mode	Channel Bandwidth(MHZ)	Channel	Channel Utilization(%)	Transmit Power(dBm)	Transmit		Receive	
TUBOID			mode					Total Packets	Total Bytes	Total Packets	Total Bytes
2.4G	00:03:0F:CC:BE:90	Enabled	11ng	HT20	1	80	23	1132	476646	0	0
5G 1	00:03:0F:CC:BE:A0	Enabled	11ac	HT40+	52	3	29	868	505198	272	39029
5G 2	00:03:0F:CC:BE:B0	Enabled	11ac	HT40+	149	17	23	342	90388	138	25744

#### 2.4.3 Client Statistics

Client statistics list displays all client information related with the device, including client IP address, client MAC address, SSID, radio, channel, RSSI, portal authenticated status, up-time, etc. As following:

Refresh										
Client Count	1									
Client IPv4 Address	Client MAC Address	SSID	Radio	Channel	RSSI	Portal Authenticated Status	Up-Time	Online Time	Downlink Speed (Mbps)	Uplink Speed (Mbps)
192.168.200.9	02:2D:07:18:0B:7D	X10-Portal	5G 1	52	att] 35	Success	2020-09-29 09:33:54	0 days 0 hours 1 minutes 48 seconds	48	400

#### 2.5 System Maintenance

#### 2.5.1 Modify Password

Click "System Maintenance">>"Modify Password" on the left menu, you can modify the username and password on the AP management interface. When modifying password, enter the original password first, then enter the new password twice, and click "Save ". As following:

DCN	≔		China(CN)
☐ Running Status	Running Status Client Sta	tistics × Modify Password ×	
AP Mode	✓ Modify Password		
💮 System Settings 🔹 🔻	User Name	admin	
Statistics	Current Decemend		
- Flow Statistics	Current Password		
<ul> <li>Radio Statistics</li> </ul>	New Password	Please Input New Password	
- Client Statistics	Confirm Password	Please Input New Password	
🔀 System Maintenance 🔺		Save	
<ul> <li>Modify Password</li> </ul>			
<ul> <li>Configuration</li> </ul>			
Management			
- System Log			

#### 2.5.2 Configuration Management

In this interface, the user can perform related operations such as configuration import and export, restore factory setting, system upgrade, reboot, etc. As following:

	DCN	:≡
습	Running Status	Running Status Configuration Management ×
88	AP Mode	✓ Import Configuration
٩	System Settings 🔹	Select the file Import
~	Statistics	
-	Flow Statistics	✓ Export Configuration
-	Radio Statistics	Export
-	Client Statistics	
℅	System Maintenance 🔺	
-	Modify Password	······································
-	Configuration	Reset
	Management	✓ System Upgrade
_	System Log	Firmware Version: 3.11.1.11
-	Radius Template	
_	Authentication	Select the file WL-8200-X10_3.11.11.1ar Upgrade
	Management	After upgrade completed, the device will be reboot automatically
-	SNMP	✓ Reboot the Access Point
-	SSL Certificate	
	Management	Reboot

After the device is reset to factory default, all configurations will be deleted and restored to FIT mode.

#### 2.5.3 System Log

The diagnostic log interface displays the latest log information of the device. It is divided into two sections: remote host and local log.

The remote host includes the log host IP address and the log host port configuration, which can store device logs to a remote syslog server.

The local log supports the log level setting and log packaging export function.

Click the "Export Log" to package and download all log information to the local. As

#### following:

CN	=		China(CN) Fit Mo	ode admin L
ng Status	Running Status System Lo	g ×		
ode	✓ Remote Host			
m Settings 🛛 🔻	Host IP	Please Input Host IP		±.
tics 👻	Host Port	514		
m Maintenance 🔺				
fy Password		Save		
guration	✓ Local Log			
gement	2000i 20g			
m Log	Conlog Level	INFO		~
s Template		Save Export Log Refresh		
entication	"ap_ipv4_gateway":	"fe80::203:fff:fe33:3333"}' &		^
gement	Dec 20 16:10:54 Do	n user.notice dcn-mapd[1705]: ubus send udhcpc_notify '{"ap_ipv6":"3333:aaaa "fe80:"203:fff fe33:3333"\ &	:::1005", "ap_ipv6_prefix":12	8,
<b>b</b>	Dec 20 16:11:36 Dc	n user.notice dcn-mapd[1705]: ubus send udhcpc_notify '{"ap_ipv4":"172.30.111	1.106", "ap_ipv4_mask":"255	.255.255.0",
ertificate	"ap_ipv4_gateway": Dec 20 16:11:36 Dc	"172.30.111.1"}' & n user notice don-mand[1705]: ifconfig br-lan 172.30.111.106 netmask 255.255.	255.0	
	Dec 20 16:11:36 Dc	n user.notice dcn-mapd[1705]: route add default gw 172.30.111.1 dev br-lan	200.0	
gement	Dec 20 16:11:54 Dc	n user.notice don-mapd[1705]: ifconfig br-lan up		
	C C S S C C C C C C C C C C C C C C C	Image: Status       Running Status       System Loc         Inde <ul> <li>Remote Host</li> <li>Host IP</li> <li>Host Port</li> <li>Host Port</li> <li>Inde</li> <li>Conlog Level</li> <li>Conlog Level</li> <li>Template</li> <li>Intication</li> <li>gement</li> <li>Dec 20 16:11:36 Dc</li> <li>Texp_ipv4_gateway*:</li> <li>Dec 20 16:11:36 Dc</li> <li>Dec 20 16:11:36 Dc</li></ul>	Status Running Status System Log ×     Ide   Ide   Settings     Kemote Host     Host IP   Please Input Host IP   Host Port   514   Host Port   514   Save     V Dassword   puration   gement   In Log   Conlog Level   NFO   Save   Export Log   Refresh     "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:10:54 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv6":"3333:aaaa   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv4":"172:30.111   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv4":"172:30.111   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv4":"172:30.111   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv4":"172:30.111   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv4":"172:30.111   "ap_ipv4_gateway":"fe80::203:fff:fe33:33337' &   Dec 20 16:11:35 Den user.notice den-mapd[1705]: ubus send udhcpc_notify ("ap_ipv6":"3333:aaaa   "ap_ipv4_gateway:"ife80::203:fff:fe33:333337' &	China(CN) Fit Model     Image: Status System Log ×                                      <

#### 2.5.4 Radius Template

Click" System Maintenance ">>" Radius Template " to maintain the Radius server template. As shown in Figure 23::

(1) Radius template name, authentication server IP address, and authentication

service shared key are required;

(2) The accounting server IP and the accounting shared key are optional. Both

of them must be filled in or not filled in at the same time, otherwise the system

prompts that they cannot be saved normally.

(3) The key requires 1-64 non-Chinese characters.

습	Running Status	Running Status	System Log × Radius	Template ×	
88	AP Mode	Add			
٩	System Settings 🛛 🔻	R	adius Template Name	Radius Auth Server IP R	Radius Accounting Serve
~	Statistics 🔹	<			_
×	System Maintenance 🔺				_
-	Modify Password		Message		— 🛛 ×
-	Configuration		Radius Template Name∗	Please Input Radius Template Name	±.
	Management System Log		Radius Auth Server IP*	Please Input Radius Auth Server IP	
-	Radius Template		Authentication Server Port*	1812	
-	Authentication		Auth Service Shared Key-	Please Input Auth Service Shared Key	×.@
	Management SNMP		Radius Accounting Server IP	Please Input Radius Accounting Server IP(Optional)	
	SSL Certificate		Accounting Server Port	Please Input Accounting Server Port(Default:1813)(Opti	onal)
	Management		Accounting Shared Key	Please Input Accounting Shared Key(Optional)	~ <b>@</b>
				Save	

#### 2.5.5 Authentication Management

Click "System Maintenance" >> "Authentication Management", the user can see authentication management configuration and Telnet status. As shown in Figure 24:

(1) Select local authentication and save it directly.

(2) To select Radius server authentication, you need to select a Radius server.

This Radius server has been maintained in the "Radius server template".

Click "System Maintenance" >> "Authentication Management", the user can see authentication management configuration and Telnet status. Choose to open or close telnet and save it.

	DCN	≣						China(CN)
습	Running Status	Runi	ning Status	Authenticatio	n Manageme	ent ×		
38	AP Mode		✓ Authentic	ation Manageme	ent			
٩	System Settings 🔹 🔻		Managem	ent Type	Local	Authentication	Radius Server Authentication	
~	Statistics 🔹				Save			
×	System Maintenance 📥							
_	Modify Password		✓ Telnet Sta	atus				
_	Configuration		Telnet Sta	tus	<ul> <li>On</li> </ul>	Off		
	Management				Save			
-	System Log				Save			
-	· Radius Template							
-	Authentication							
	Management							
_	SNMP							
_	SSL Certificate							

## 2.5.6 SNMP Configuration

Click "System Maintenance" >> "SNMP Configuration" to configure SNMP related information. As shown in Figure 25:

	DCN	=	
습	Running Status	Running Status SNMP ×	
88	AP Mode	∽ snmp	
٩	System Settings 🔹 🔻	SNMP Version 💿 v2 Version 🔿 v3	3 Version
~	Statistics 🔹	Device Location office	
*	System Maintenance 🔺		
_	Modify Password	SNMP Password	
_	Configuration	Trap Receiver localhost Host	
	Management		
-	System Log	Save	
_	Radius Template		
_	Authentication		
	Management		
-	SNMP		
_	SSL Certificate		
	Management		

## 2.5.7 SSL Certificate Management

Click " System Maintenance ">>" SSL Certificate Management " to upload

the SSL certificate. As shown in Figure 26:

DCN	≡
🔓 Running Status	Running Status         SSL Certificate Management         ×
AP Mode	✓ SSL Certificate Management
💮 System Settings 🔻	Select Certificate File(.crt .key)
Statistics -	File Name File Size File Status
💥 System Maintenance 🔺	
<ul> <li>Modify Password</li> </ul>	Start Upload
<ul> <li>Configuration</li> </ul>	
Management	
<ul> <li>System Log</li> </ul>	
<ul> <li>Radius Template</li> </ul>	
<ul> <li>Authentication</li> </ul>	
Management	
- SNMP	
<ul> <li>SSL Certificate</li> </ul>	
Management	

# 3 FIT AP Mode

When there are a large number of APs on the network, the configuration or management one by one will become more complicated. At this time, it is suitable to use the FIT AP mode + AC (AP controller) for unified management and configuration, thereby reducing the configuration and management costs.

The typical topology is as following:



The AP is shipped in FIT AP mode by default. You can also switch to FIT AP mode by restoring the factory setting or following the instructions in the AP mode chapter. The wireless configuration of the FIT mode is operated uniformly through the AC. For details about this part, please refer to the DCN related AC operation manual. Here, the AP's wired configuration, AC address setting, WDS configuration, and system management are mainly introduced.

#### 3.1 System Settings

#### **3.1.1 Ethernet Settings**

Click "System Settings">> "Ethernet Settings" on the left menu to enter the AP Ethernet setting interface. In default, the current status of the uplink port (usually the POE interface) and the downlink port of the AP are displayed. As following:

DCN		
🔓 Running Status	Running Status Ethern	et Settings ×
AP Mode	— Unlink Setting	
💮 System Settings		<b>jo</b>
- Ethernet Settings	Management VLAN	1
— Manage AC Setti	ngs Untagged VLAN	1
<ul> <li>WDS Settings</li> </ul>	Connection Type	DHCP
Statistics	IP Address	172.30.111.106
🔀 System Maintena	nce 🔺 Subnet Mask	255.255.255.0
<ul> <li>Modify Password</li> </ul>	Default Gateway	172.30.111.1
<ul> <li>Configuration</li> </ul>	DNS Sonror	202 103 24 68
Management	DNS Server	202.103.24.00
<ul> <li>System Log</li> </ul>	IPv6 Connection	DHCP
<ul> <li>Radius Template</li> </ul>	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
<ul> <li>Authentication</li> </ul>	IPv6 Address	3333:AAAA::1005
Management	IPv6 Address Prefix	128
- SNMP	Length	
<ul> <li>SSL Certificate</li> </ul>	Default IPv6 Gateway	FE80::203:FFF:FE33:3333
Management		2010-2010
	IPv6 DNS Server	20192019
	— Downlink Set	tings
	VLAN ID	1
		Edit

If you need to modify the related setting of the uplink port, you can click the "Edit" at the bottom of the interface to edit setting, where you can set the AP wired VLAN and the IP address configuration mode of the AP. As following:

G Running	Status	Running Status	thernet Settings $\times$
🔠 AP Mode		— Uplink Se	ttings
💮 System S	ettings 🔺	Management	1
– Ethernet	Settings	VLAN∗	
— Manage	AC Settings	Untagged VLAN	• 1
– WDS Set	tings	Connection Type	e*  OHCP  Static IP
Statistics	-	IP Address	172.30.111.106
💥 System N	laintenance 📥	Subnet Mask	255.255.255.0
<ul> <li>Modify P</li> </ul>	assword	Default Gateway	172.30.111.1
— Configura	ation	DNS Server	202.103.24.68
Manager	nent	IPv6 Connection	
- System L	og	Type*	
- Radius ie	emplate	IPv6 Address	3333:AAAA::1005
— Authentio	nent	IPv6 Address Pr	efix 128
- SNMP	nem	Length	
— SSL Certi	ficate	Default IPv6	FE80::203:FFF:FE33:3333
Manager	nent	Gateway	
		IPv6 DNS Serve	r 2019::2019
		Downlink	Settings
		VLAN ID*	1
			Save Return

#### 3.1.2 Manage AC Settings

Click "System Settings">>>"Manage AC Settings" on the left menu to enter the AC management setting interface. From this page, you can view the static AC management address of the current AP setting. If you need to configure the address of the static management AC, you can click the "Edit" at the bottom of the page to enter the setting page, where you can configure multiple IP (v6) addresses of the management AC or domain names of the management AC. As shown below:

DCN	=	
🔓 Running Status	Running Status Manag	e AC Settings ×
🔠 AP Mode	AC IP Address 1	192.168.1.254
💮 System Settings 🔺	AC IP Address 2	
<ul> <li>Ethernet Settings</li> </ul>	AC IP Address 3	
<ul> <li>Manage AC Settings</li> </ul>		
<ul> <li>WDS Settings</li> </ul>	AC IP Address 4	
Statistics 🔹	AC IPv6 Address 1	
🔆 System Maintenance 🔺	AC IPv6 Address 2	
<ul> <li>Modify Password</li> </ul>	AC IPv6 Address 3	
- Configuration	AC IPv6 Address 4	
Management		www.acaddr.com
<ul> <li>System Log</li> </ul>	AC ORE Address	
<ul> <li>Radius Template</li> </ul>		Edit
<ul> <li>Authentication</li> </ul>		
Management		
— SNMP		
<ul> <li>SSL Certificate</li> </ul>		
Management		

Tip: In addition to static AC IP or AC domain name to find AC, you can also actively find AC through DHCP option. For details, refer to DCN AC related manuals or consult DCN staffs.

#### 3.1.3 WDS Settings

Click "System Settings" >> "WDS Settings" on the left menu to view the WDS current status of the AP. If you need to bridge this AP with other ones, you can click the "Edit" at the bottom of the page to enter the WDS setting page, as shown below:

	DCN	≣	
G	Running Status	Running Status	WDS Settings $\times$
88	AP Mode	Status*	Enabled   Disabled
٢	System Settings 🔺	Radio	○ 2.4G ○ 5G
-	<ul> <li>Ethernet Settings</li> </ul>	SSID	Please enter SSID (the SSID needs to work in root mode)
-	<ul> <li>Manage AC Settings</li> </ul>	BSSID	Please enter BSSID (the BSSID needs to work in root mode)
-	WDS Settings		· · · · · · · · · · · · · · · · · · ·
F	Statistics 👻	Password	Please Input Password. If the encryption method is Open, there is no need to enter the password.
*	System Maintenance 🔻		Save Scan Return

If you want to manually enter the information of the target wireless network or the target wireless network is a hidden network, you can directly enter the corresponding wireless network information and save it.

If you want to connect it through the scanning method, you can first select the radio frequency band to be bridged on this page, click the "Scan" to start scanning, select the target BSSID, and then select "Connect" for WDS connection, as shown below:

DCN	=						
Running Status	Running Status	WDS Settings ×					
🔐 AP Mode	Status*	Enabled	Disabled				
💮 System Settings 🔺	Radio×	2.4G 💿 5	G				
<ul> <li>Ethernet Settings</li> </ul>	SSID	Please enter SSIE	) (the SSID needs to work ir	n root mode)			
<ul> <li>Manage AC Settings</li> <li>WDS Settings</li> </ul>	BSSID	Please enter BSS	ID (the BSSID needs to wor	k in root mod	e)		
Statistics	Password	Please Input Pass	word. If the encryption meth	nod is Open, t	here is no	need to enter	the password.
🗶 System Maintenance 🔻		Save	n Return				
	Message						- 🛛 ×
	Number	SSID	BSSID	Channel	RSSI	Security Setting	Operation
	1	WLAN-Test	00:03:0f:12:60:d0	149	70	WPA2	Connect
	2	VAP_5G	00:03:0f:12:60:c2	44	66	WPA2	Connect
	3	Guest Network	00:03:0f:cc:b6:a0	36	51	OPEN	Connect
	4	!!-28-open-5g2	00:03:0f:cc:b6:a3	36	51	OPEN	Connect
	5	II-28-Portal-5g1	00:03:0f:cc:b6:a1	36	51	OPEN	Connect
	6	8888rrrr	00:03:0f:e0:00:10	157	47	OPEN	Connect
	7	DCN-RD-WLAN	00:03:0f:06:00:11	149	45	OPEN	Connect

# 4 FAT Bridge Mode

When there is no AC in the network, you can select the fat mode. If there is a DHCP server in the network, you can switch the AP to the fat bridge mode to use the wireless network.



#### 4.1 Setup Wizard

Clicking "Setup Wizard" on the left menu and then the "Setup Wizard-Start" interface will pop up, which introduces the role of the wizard. If you do not want to use the wizard, you can select "Exit Wizard".



If you want to use the wizard, you can click "Next Step" to enter the "Setup Wizard-Manage IP Settings" interface, where you can configure the AP's IP (v6) address connection method to be dynamic or static, as shown below:

DCN	≣		Chi
🔓 Running Status	Running Status Setup Wizard $ imes$		
🛃 Setup Wizard			
AP Mode	Setup Wizard - Manage IP Settings	;	
<ul> <li>Basic Settings</li> <li>Advanced Settings</li> <li>Statistics</li> <li>System Maintenance</li> </ul>	Connection Type• IP Address• Subnet Mask• Default Gateway DNS Server IPv6 Connection Type• IPv6 Address• IPv6 Address• IPv6 Address Prefix Length• Default IPv6 Gateway IPv6 DNS Server	<ul> <li>DHCP • Static IP</li> <li>172.18.18.2</li> <li>255.255.255.0</li> <li>172.18.18.254</li> <li>223.5.5.5</li> <li>DHCP • Static IP</li> <li>2018:1818::2001</li> <li>128</li> <li>FE80::203:FFF:FE06:511</li> <li>2018:172:18::186</li> </ul>	
	Previous Step Next	Step	

After the management address setting is completed, click "Next Step" to enter the "Setup Wizard-Wireless Settings" interface, where you can set wireless parameters such as wireless name (SSID) and security mode, as shown in the figure below:

DCN	≡		China(CN)	Fat Mode - Bridg
Running Status	Running Status Setup Wizard ×	_		
🛃 Setup Wizard				
AP Mode	Setup Wizard - Wireless Settings			- 🛛 ×
<ul> <li>Basic Settings</li> <li>Advanced Settings</li> </ul>	This page configures wirel the menu "Basic Settings"	ess network information. If you need to set more t - > "Wireless Settings" to configure.	than one SSID, ple	ease go to
	SSID★	DCN_WLAN		
	Radio∗	🗹 2.4G 🗹 5G 1 🗹 5G 2		
	Client Isolation*	On Off		
	Hidden SSID*	On Off		- 1
	Security Setting*	WPA/WPA2-Personal		~
	Password*	Please Input Password		>
	Previous Step No	ext Step		-

Click "Next Step" and then click "Complete". Finally, before you click "Complete", you can click "Previous Step" to modify the parameters that have been set. After you click "Complete", all parameter settings will take effect.

#### 4.2 Basic Settings

#### **4.2.1 Ethernet Settings**

Click "System Settings" >> "Ethernet Settings" on the left menu to enter the AP Ethernet setting page. The AP uplink (usually a POE interface) and the current status of the downlink are displayed by default. Then you can click the "Edit" at the bottom of the page to enter the page, where you can set the AP wired interface VLAN and the IP address configuration method of the AP. As shown below:

DCN	≣	
🔓 Running Status	Running Status Ethern	et Settings ×
E Setup Wizard	Uplink Setting	js
AP Mode	Management VLAN∗	1
🔯 Basic Settings 🔺		
<ul> <li>Ethernet Settings</li> </ul>	Untagged VLAN*	1
<ul> <li>Wireless Settings</li> </ul>	Connection Type*	DHCP      Static IP
Advanced Settings	IP Address	172.18.18.2
🖂 Statistics 🔹	Subnet Mask	255.255.255.0
🔀 System Maintenance 🔻	Default Gateway	172.18.18.254
	DNS Server	223.5.5.5
	IPv6 Connection Type∗	DHCP      Static IP
	IPv6 Address	2018:1818::2001
	IPv6 Address Prefix Length	128
	Default IPv6	FE80::203:FFF:FE06:511
	Gateway	
	IPv6 DNS Server	2018:172:18::186
	Downlink Set	tings
	VLAN ID*	1
		Save Return

#### 4.2.2 Wireless Settings

Click "Basic Settings" >> "Wireless Settings" on the left menu to enter the wireless setting page, where you can set the basic parameters of the wireless

network, as shown below:

Run	Running Status Wireless Settings ×								
Add									
	SSID	Vlan ID	Radio Enable	Client Isolation	Hidden SSID	WDS Mode	Multicast To Unicast	Security Setting	Operation
	DCN_WLAN	1	2.4G/5G 1/5G 2	Off	Off	Disabled	Off	Open	Edit Delete
	Country Code S	Settings							
	Country Code	China		▼ Save					

If you need to create a new wireless network, you can click "Add" and enter the

corresponding parameters, as shown below:

SSID*	Please Input SSID
VLAN ID*	Please Input VLAN ID
Radio∗	✓ 2.4G ✓ 5G 1 ✓ 5G 2
Client Isolation*	On Off
Hidden SSID∗	On Off
WDS Mode*	Enabled   Disabled
Multicast To Unicast*	On Off
Security Setting*	Open -
Speed Limit Mode*	SSID Speed Limit     Client Speed Limit
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-10485760)(Optional)
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-10485760)(Optional)
	Save

The content marked with " \* " in the above picture is required, the others are

optional, and the brief introduction is as follows:

Client Isolation: Communication control between wireless clients. When being turned on, wireless clients cannot communicate with each other. Off by default.

Hidden SSID: When the hidden SSID is turned on, the wireless client will not be able to search for this SSID information.

Security Settings: This router supports three security settings, Open, WPA / WPA2-Personal, and WPA / WPA2-Enterprise.

Uplink Speed Limit: Control the uplink speed of all users under this SSID to not exceed the specified speed.

Downlink Speed Limit: Control the downlink speed of all users on a certain radio frequency under the SSID to not exceed the specified speed.

Uplink Speed Per Client: Controls the uplink speed of each client accessing the wireless.

Downlink Speed Per Client: Controls the downlink speed of a single client.

It should be noted that the bandwidth speed limit is for wireless to wired interfaces, and does not include the speed limit between wireless to wireless interfaces or between wireless clients to wireless clients under the same VAP. And one-way SSID speed limit and client speed limit cannot be used at the same time. In addition, each AP can set up to 16 SSIDs. The default SSID can only be edited and cannot be deleted.

In addition, the OPEN mode does not need to set a password, and the wireless client can directly access;

In WPA / WPA2-Persional mode, you need to set a password with a length of 8

- 28 -

to 63 characters;

WPA / WPA2-Enterprise mode is authenticated by the radius server, so you need to bind the radius template. For details, refer to section 2.5.4.

#### 4.3 Advanced Settings

#### 4.3.1 Radio Settings

The radio setting page displays all radio information in a list with no new features. Click " Edit " in the operation column to modify the radio settings, including status, channel, channel bandwidth, transmit power, multicast rate, STBC mode, Beacon interval, DTIM period, RTS period, max clients, etc., as shown below:

ning Status Radio Settings ×												
Radio	Status	Mode	Channel Bandwidth	Channel	Transmit Power(dBm)	Multicast Rate(Mbps)	STBC Mode	Beacon Interval	DTIM Period	RTS Threshold	Max Clients	Operat
2.4G	Enabled	802.11axg	HT20	1	23	auto	Enabled	100	1	2346	127	Edit
5G 1	Enabled	802.11axa	HT80	64	29	auto	Enabled	100	1	2346	127	Edit
5G 2	Enabled	802.11ac	HT40	149	23	auto	Enabled	100	1	2346	127	Edit

#### 4.3.2 WDS Settings

Click "Advanced Settings" >> "WDS Settings" on the left menu to view the WDS current status of the AP. If you need to bridge this AP with other ones, you can click the "Edit" at the bottom of the page to enter the WDS setting page, as shown below:

Running Status	WDS Settings $\times$
Status*	Enabled   Disabled
Radio	○ 2.4G ○ 5G
SSID	Please enter SSID (the SSID needs to work in root mode)
BSSID	Please enter BSSID (the BSSID needs to work in root mode)
Password	Please Input Password. If the encryption method is Open, there is no need to enter the password.
	Save Scan Return

If you want to manually enter the information of the target wireless network or the target wireless network is a hidden network, you can directly enter the related wireless network information and save it.

If you want to connect it through the scanning method, you can first select the radio frequency band to be bridged on this page, click the "Scan" to start scanning, select the target BSSID, and then select "Connect" for WDS connection, as shown below:

Runn	ing Status WDS Settings ×								
	Status*	Enabled     Disabled							
	Radio∗	🔵 2.4G 💿 5G							
	SSID	Please enter SSID (th	e SSID needs to work i	n root mode)					
	BSSID	Please enter BSSID (t	the BSSID needs to wo	rk in root mod	le)				
	Password	Please Input Passwor	d. If the encryption met	hod is Open,	there is no	need to ente	r the password.		
		Save Scan	Return						
1	Message						- 8 ×		
	5						A		
	Number	SSID	BSSID	Channel	RSSI	Security Setting	Operation		
	1	VAP_5G	00:03:0f:12:60:c2	36	59	WPA2	Connect		
	2	Guest Network	00:03:0f:cc:b6:a0	36	51	OPEN	Connect		
	3	II-28-Portal-5g1	00:03:0f:cc:b6:a1	36	51	OPEN	Connect		
	4	!!-28-open-5g2	00:03:0f:cc:b6:a3	36	51	OPEN	Connect		
	5	mt10168	00:03:0f:8e:1b:c0	149	49	OPEN	Connect		
	6	!!_28_i3r2	00:03:10:04:60:20	52	47	OPEN	Connect		
	7	‼-test181	00:03:10:04:60:21	52	46	OPEN	Connect		

#### 4.4 System Maintenance

#### **4.4.1 IP Session Control**

Click "System Maintenance">>"IP Session Control" on the left menu to enter the IP session control page, where you can set the number of TCP connections that each client can use simultaneously. If the number of connections reaches the specified number, the new TCP connections will be rejected. Note that closed TCP connections are not counted in the number of connections.

The default is 0, which means unlimited. As shown below:

DCN	:≡
G Running Status	Running Status IP Session Control ×
Setup Wizard	✓ IP Session Control Settings
	This function is to limit the number of active TCP connections. The number of IP session controls is 0, which means unlimited.
🕄 Basic Settings 🔹 🔻	
💮 Advanced Settings 🔻	IP Session Limits 0
Statistics 🗸	Save
💥 System Maintenance 🔺	
<ul> <li>Modify Password</li> </ul>	
<ul> <li>Configuration</li> </ul>	
Management	
– System Log	
- IP Session Control	

#### 4.4.2 Network Timing

Click "System Maintenance" >>" Network Timing", you can set NTP network time, turn on or off the NTP server. It supports up to 4 NTP server settings. As shown below:

🛕 Running Status	Running Status Network	k Timing ×
E Setup Wizard	✓ Network Timing	
AP Mode	Current Time:	2019-12-20 16:28:09
ĝ Basic Settings 🔹 🔻	Status	● On ◯ Off
Advanced Settings	Time Zone	UTC+8(Beijing, CCT)
Statistics <b>•</b>	NTP Server1	cn.ntp.org.cn
💥 System Maintenance 🔺		
- Modify Password	NTP Server2	edu.ntp.org.cn
<ul> <li>Configuration</li> </ul>	NTP Server3	hk.ntp.org.cn
Management	NTP Server4	tw.ntp.org.cn
– System Log		Save
- IP Session Control		
<ul> <li>Network Timing</li> </ul>		

# **5 FAT Routing Mode**

The AP in the FAT routing mode can access broadband lines to provide DHCP and wireless access for LAN phones, laptops, etc. to achieve the shared Internet access. The typical topology is as follows:



On the WAN side of the AP, set the WAN port address through PPPoE, DHCP, or static address, and then connect to the Internet or other network through the gateway device. LAN and WLAN constitute a private subnet. Devices on this network apply to the AP for dynamic or static IP addresses through DHCP. The WAN side and the LAN (WLAN) side network are isolated by a firewall. The LAN side host performs IP masquerading (NAT) and is not visible to the WAN side device.

#### 5.1 WEB Login

Unlike the fit mode and the fat bridge mode, in the fat routing mode the AP can only be accessed from the LAN side, so it can only be accessed by using a LAN-side wired device connected to the AP's LAN port or a wireless terminal connected to the AP's SSID (the default is DCN\_WLAN). Open the browser after connecting and enter the LAN side management IP address (the default address is: 192.168.1.10), you can access the web setting interface of the wireless AP, recommended use: Google, Firefox, 360 browser (speed mode) or IE11 browser. The default username is: admin, and the password is: admin, which supports https access.



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#### 5.2 Setup Wizard

Click "Setup Wizard" on the left menu to configure the device. The detailed

steps are as shown below:

DCN	≡					
🔓 Running Status	Running Status Setup Wizard ×					
🛃 Setup Wizard	Setup Wizard - Start — 🖂 🗙					
AP Mode	With this wizard, you can set up the basic network parameters needed for accessing the Internet. Even if					
① Network Parameters ▼	you're not familiar with the network and the product, you can easily follow the tips to complete the setup. If you are an expert, you can exit and go to the menu to select the settings modify directly.					
🔶 Wireless Settings	To continue, please click "Next Step".					
<sup>((</sup> <sup>†))</sup> Radio Settings						
■ DHCP Server ▼	Exit Wizard Next Step					
Statistics 🔹						
🔀 System Maintenance 🔻						

There are three Internet access modes supported by the device: PPPoE,

dynamic IP and static IP, which can be configured according to the Internet access provided by the network service provider. As shown below:

DCN	≡
Running Status	Running Status Setup Wizard ×
🛃 Setup Wizard	Setup Wizard - Internet Connection Type — 🛛 🗙
吕 AP Mode	This device supports three commonly used ways of accessing the Internet. Please choose according to your
Hetwork Parameters	own situation.
혂 Wireless Settings	ADSL virtual dialing method using required username and password (PPPoE)     Getting the IP address automatically allocated by DHCP from the interpet service provider (DHCP)
	Using the static IP address provided by the internet service provider (Static IP)
DHCP Server	Previous Step Next Step
Statistics -	
🏑 System Maintenance 🔻	

If the selected Internet access method is PPPoE, you need to fill in your

Internet account and password, as shown in the figure below:

	DCN	≡					
습	Running Status	Running Status Setup Wizard ×					
٥	Setup Wizard	Setup Wizard - PPPoE	- 🛛 ×				
88	AP Mode	When you apply for ADSL virtual dialing service, the internet service provider will provide y	ou with the				
۲	Network Parameters 🔻	Internet account and password, please enter the box below. If you forget or do not know clearly, please consult your internet service provider.					
((;-	Wireless Settings	Internet Account Please Input Internet Account	1				
((† ))	Radio Settings	Internet Please Input Internet Password					
	DHCP Server 🔻	Password*					
2	Statistics 🔹	Previous Step Next Step					
X	System Maintenance 🔻						

If the selected Internet access method is dynamic IP, it will directly jump to the next wireless setting.

If the selected Internet access method is static IP, you need to configure a

static IP address, as shown below:

DCN	≣				
🔒 Running Status	Running Status Setup Wi	zard ×			
Setup Wizard	Setup Wizard - Static IP				
AP Mode	When you apply for	Ethernet Width Service with a static IP address, the internet service provider will pr			
Detwork Parameters	you with some basic network parameters, please fill in the following box. If you forget or do not know cle please consult your internet service provider.				
🛜 Wireless Settings	IP Address*	0.0.0.0			
۲ <sup>۱))</sup> Radio Settings	Subnet Mask*	0.0.0.0			
DHCP Server	Default Gateway	0.0.0.0			
📰 Statistics 🔹 🔻	DNS Server	0.0.0.0			
쑳 System Maintenance 🔻	Previous Step	Next Step			

If the Internet access mode is set, the next step is wireless settings, as shown

below:

	DCN	≔					
습	Running Status	Running Status Setup Wizard ×	<u> </u>				
Ð	Setup Wizard	Setup Wizard - Wireless Settings	- 🛛 ×				
	AP Mode	This page configures wirely	ess network information. If you need to set more than one SSID, please go to				
	Network Parameters 🔻	the menu "Basic Settings" - > "Wireless Settings" to configure.					
	Wireless Settings	SSID*	DCN_WLAN				
	Radio Settings	Radio*	✓ 2.4G ✓ 5G 1 ✓ 5G 2				
	DHCP Server 🔻	Client Isolation*	On Off				
	Statistics 🔹	Hidden SSID <b>∗</b>	On Off				
	System Maintenance 🔻	Security Setting*	Open 👻				
		Previous Step Ne	xt Step				

Click "Next Step" and then click "Complete". Finally, before you click "Complete", you can click "Previous Step" to modify the parameters that have been set. After you click "Complete", all parameter settings will take effect.

#### **5.3 Network Parameter Settings**

#### 5.3.1 LAN Port Setting

Click "Network Parameters" >> "LAN Port Settings" on the left menu to set the LAN side IP address and subnet mask. When the LAN port IP parameters are changed, to ensure that the DHCP server can work normally, the address pool, static address set in the DHCP server and the new LAN port IP should be on the same network segment. After saving the settings, please enter IP address to visit this page. As shown below:

	DCN	:=		
습	Running Status	Running Status	LAN Port Setti	ngs ×
Ð	Setup Wizard	This page shows the basic		twork parameters of LAN port.
38	AP Mode	MAC Addres	S	00:03:0F:8C:B8:81
۲	Network Parameters 🔺	IP Address		192.168.1.10
-	LAN Port Settings	Subnet Mask		255.255.255.0
-	WAN Port Settings			
((i-	Wireless Settings			Edit
<sup>((</sup> † <sup>))</sup>	Radio Settings			
	DHCP Server 🔻			

MAC Address: The MAC address of the AP to the LAN is used to identify the local area network and cannot be changed.

IP Address: The IP address of the AP to the LAN. The factory default value of this IP address is 192.168.1.10 and you can change it if needed.

Subnet Mask: The subnet mask of this AP to the LAN. You can enter different subnet masks based on the actual network status.

#### **5.3.2 WAN Port Settings**

Click "Network Parameters">> "WAN Port Settings" on the left menu to modify the basic parameters of the WAN port.

There are currently three ways to obtain the IP address of the WAN port: static IP, dynamic IP, and PPPoE, which can be set according to the Internet access method provided by the service provider. Compared to the setup wizard, the information configured on this page is more comprehensive.

If the selected IP address acquisition method is static IP, as shown below:

	DCN	≣	
습	Running Status	Running Status WAN Port Set	ttings ×
Đ	Setup Wizard	This page shows the basic r	network parameters of WAN port.
88	AP Mode	MAC Address	00:03:0F:60:12:20
۲	Network Parameters 🔺	Connection Type*	Static IP
-	LAN Port Settings	IP Address*	172.18.18.2
-	WAN Port Settings		
((:	Wireless Settings	Subnet Mask∗	255.255.255.0
((†))	Radio Settings	Default Gateway	172.18.18.254
	DHCP Server 🔹	DNS Server	172.18.0.186
~	Statistics 🔹	Packet MTU*	1500
×	System Maintenance 🔻		Save Return

IP Address: The IP address of the AP to the WAN. Please enter the public IP address provided by the ISP. It must be set.

Subnet Mask: The subnet mask of this AP to the WAN. Please enter the subnet mask provided by the ISP. According to different network types, the subnet mask is different, generally 255.255.255.0 (class C).

Default Gateway: Please enter the gateway provided by the ISP. It is the IP address of the connected ISP.

DNS Server: Please enter the DNS server provided by the ISP.

Packet MTU: The MTU is a data transmission unit throughout, and the default

value is 1500. Please ask the ISP if you need to change it, but don't change it unless

it is specifically needed.

If the selected IP address acquisition method is dynamic IP, as shown below:

🔓 Running Status	Running Status LAN Po	rt Settings × WAN Port Settings ×
Setup Wizard	This page shows the	basic network parameters of WAN port.
B AP Mode	MAC Address	00:03:0F:60:12:20
Network Parameters	Connection Type*	Static IP
<ul> <li>LAN Port Settings</li> </ul>	IP Address*	172.18.18.2
<ul> <li>WAN Port Settings</li> </ul>		
🛜 Wireless Settings	Subnet Mask*	255.255.255.0
(† <sup>1)</sup> Radio Settings	Default Gateway	172.18.18.254
DHCP Server	DNS Server	172.18.0.186
Statistics 🗸	Packet MTU*	1500
🗶 System Maintenance 🔻		Save Return

DNS Server: This shows the DNS server address automatically obtained from

the ISP.

Packet MTU: The MTU is a data transmission unit throughout, and the default value is 1500. Please ask the ISP if you need to change it, and don't change it unless it is specifically needed.

If the selected IP address acquisition method is PPPoE, as shown below:

	DCN	≣		China(CN)	Fa					
۵	Running Status	Running Status LAN Port Set	Running Status LAN Port Settings × WAN Port Settings ×							
Ēd	Setup Wizard	This page shows the basic	This page shows the basic network parameters of WAN port.							
88	AP Mode	MAC Address	00:03:0F;60:12:20							
۲	Network Parameters	Connection Type*	PPPoE							
-	LAN Port Settings	Internet Account*	pppoe							
-	WAN Port Settings	Internet Password+								
() (?	Wireless Settings	internet rassificita.								
((† 1)	Radio Settings	Packet MTU*	1492							
888	DHCP Server 🔫	Connection Mode*	Connect on demand, automatically connect when accessed.     Automatic connection, automatic connection after boot and	I disconnection.						
****	Statistics 👻		Manual connection, manually connected by users.							
~	statistics +	Automatic break waiting	15							
×	System Maintenance 🔻	time*	Saus Péhiro							

Internet Account and Password: Please enter the Internet account and password

provided by the ISP correctly. This item must be filled in.

On-demand Connection: If you select the on-demand connection mode, the system will automatically connect when there is a network access request from the local area network. If there is no network request within the set time (automatic disconnection waiting time), the system will automatically disconnect. For users who are billed based on usage time, this connection method can be selected to effectively save Internet access costs.

Automatic Connection: If the automatic connection mode is selected, the system will automatically connect after power on. During use, if the network is disconnected due to external reasons, the system will try to connect at regular intervals until the connection is successful. If your network service is a monthly subscription, you can choose this connection method.

Manual Connection: Select this option to require the user to dial-up manually after power-on. If there is no network request within the specified time (automatic disconnection waiting time), the system will automatically disconnect. You can choose this connection method if your Internet service pays according to the time of use

Automatic Break Waiting Time: The default value is 15 minutes. If there is no network access traffic for this set period of time, the network connection will be automatically disconnected to protect your online resources. This setting is only effective for "On-demand connection" and "Manual connection".

Packet MTU: The MTU is a data transmission unit throughout. The default value

- 41 -

is 1492. Please ask the ISP if you need to change it, and don't change it unless it is specifically needed.

#### **5.4 Wireless Settings**

The wireless settings mainly set the basic parameters of the router wireless network. The first SSID is reserved by the system and can be edited but not deleted. The maximum number of SSIDs is 16. As shown below:

Message		2 ×					
SSID*	Please Input SSID						
Radio*	✓ 2.4G ✓ 5G 1 ✓ 5G 2						
Client Isolation*	On Off						
Hidden SSID∗	On Off						
Multicast To Unicast*	On Off						
Security Setting*	Open	-					
Speed Limit Mode*	SSID Speed Limit     Client Speed Limit						
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-10485760)(Optional)						
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-10485760)(Option						
	Save						

Client Isolation: Communication control between wireless clients. After being turned on, wireless clients cannot communicate with each other. Off by default. Hidden SSID: When the hidden SSID is turned on, the wireless client will not be able to search for this SSID information.

Security Settings: This router supports three security settings: open, WPA /

습	Running Status	Running Status	Wireless Settings	×		
Ęġ	Setup Wizard	Add				
88	AP Mode	Message		-	2 ×	Hidd
٢	Network Parameters 🔻	SSID	×	!!DCN_WLAN	<u>*</u>	
( <u></u>	Wireless Settings	Radi	0*	✓ 2.4G ✓ 5G 1 ✓ 5G 2		
(( <sub>†</sub> ))	Radio Settings	Clien	t Isolation*	On Off		
	DHCP Server 🗸	Hidd	en SSID∗	On Off		
~	Statistics 🔹	Multi	cast To Unicast∗	On Off		
*	System Maintenance 🔻	Secu	rity Setting∗	Open	•	
		Uplin	k Speed Limit(kBps)	Open		
		Dow	link Speed	WPA/WPA2-Personal		
		Limit	(kBps)	WPA/WPA2-Enterprise		
		Uplin Clien	k Speed Limit Per it(kBps)	Please Input Uplink Speed Limit Per Client(Range:0-10485760	)(C	
		Down	nlink Speed Limit Per it(kBps)	Please Input Downlink Speed Limit Per Client(Range:0-104857	60	
				Save	~	

WPA2-Personal, WPA / WPA2-Enterprise.

:=

DCN

The OPEN mode does not need to set a password, and the wireless client can directly access;

In WPA / WPA2-Persional mode, the user need to set a password with a length of 8 to 63 characters;

WPA / WPA2-Enterprise mode is authenticated by the radius server, so you need

to bind the radius template. For details, refer to section 2.5.4.

#### 5.5 Radio Settings

The radio setting page displays all radio information in a list with no new features. Click " Edit " in the operation column to modify the radio settings, including status, channel, channel bandwidth, transmit power, multicast rate, STBC mode, Beacon interval, DTIM period, RTS period, max clients, etc., as shown below:

Radio	Status	Mode	Channel Bandwidth	Channel	Transmit Power(dBm)	Multicast Rate(Mbps)	STBC Mode	Beacon Interval	DTIM Period	RTS Threshold	Max Clients	Operation
2.4G	Enabled	802.11ng	HT20	6	27	auto	Enabled	100	1	2346	127	Edit
5G 1	Enabled	802.11ac	HT40	52	20	auto	Enabled	100	1	2346	127	Edit
5G 2	Enabled	802.11ac	HT40	149	23	auto	Enabled	100	1	2346	127	Edit

#### 5.6 DHCP Server

DHCP refers to the Dynamic Host Control Protocol. The WL8200-X10 has a built-in DHCP server that can automatically assign IP addresses to computers in the local area network. It is not easy for users to configure TCP / IP protocol parameters for all computers in the local area network. It includes IP address, subnet mask, gateway, DNS server, etc. The DHCP service can solve these problems.

#### 5.6.1 DHCP Server

Click "DHCP Server" >> "DHCP Server" on the left menu to set the DHCP server parameters. As shown below:

DCN	≣	
🔓 Running Status	Running Status DHCP Serve	я <b>г</b> ×
🛃 Setup Wizard	The DHCP server is built in	this device. It can automatically configure the TCP/IP protocol of your computer in LAN.
🔠 AP Mode	LAN Port IP Address	192.168.1.10
Wetwork Parameters	DHCP Server*	Enabled Disabled
🛜 Wireless Settings	IP Pool Start Address*	192.168.1.100
<sup>((</sup> † <sup>))</sup> Radio Settings	IP Pool End Address*	192.168.1.199
DHCP Server	Lease(minutes)*	120
DHCP Server	Default Gateway	0.0.0.0
<ul> <li>Client List</li> <li>Static IP Distribution</li> </ul>	DNS Server	0.0.0.0
🗔 Statistics 🗸		Save Return
💥 System Maintenance 🔻		

IP Pool Start Address and IP Pool End Address: These two items are the start address and end address when the DHCP server automatically allocates IP addresses. After setting these two items, the IP address obtained by the intranet host will be between these two addresses.

Address Lease: This item refers to the valid use time of the dynamic IP address assigned by the DHCP server to the client host. During this time, the server will not assign IP addresses to other hosts.

Default Gateway: This item should be filled in the IP address of the router LAN port. The default is 192.168.1.10.

DNS Server: Enter the DNS server provided by the ISP.

#### 5.6.2 Client List

Click "DHCP Server"-> "Client List" on the left menu, you can see the information of all the hosts that have obtained the IP address through the DHCP

#### server. As shown below:

DCN	≣				China(CN)	Fat Mode - Route Mode	admin	Log
🔓 Running Status	Running Sta	atus Client List >	<					
🛃 Setup Wizard	This p	age shows the inform	ation of all hosts that get the IP	address through the DHC	P server. Click 'Refre	sh' button to update the inform	ation in the	table.
吕 AP Mode	ID	Client Name	MAC Address	IP Address	Ff	fective Time	Status	5
Wetwork Parameters	1	fupsde-iPad	BC:B8:63:94:ED:29	192.168.1.104	0days1hours	s19minutes55seconds	Offlix	ne
🛜 Wireless Settings	Refre	sh						
<sup>((</sup> ) <sup>1))</sup> Radio Settings								
DHCP Server								
<ul> <li>DHCP Server</li> </ul>								
<ul> <li>Client List</li> </ul>								
<ul> <li>Static IP Distribution</li> </ul>								
Statistics 🗸								
System Maintenance 🔻								

Client Name: This field displays the client name that has obtained the IP address. MAC Address: This field displays the MAC address of the client that obtained the IP address.

IP Address: This field displays the IP address assigned by the DHCP server to the client host.

Effective Time: This item refers to the lease period of the IP address obtained by the client host. Each IP address has a certain lease time, and the client software will automatically renew the lease before it expires.

Status: The online / offline status of the client that has obtained the IP address is displayed here.

#### 5.6.3 Static IP Distribution

Click "DHCP Server">> "Static IP Distribution" on the left menu to manually set a static IP address.

The static reserved IP address assignment function can reserve IP addresses

for specific clients, allowing IP addresses to establish a fixed binding relationship with MAC addresses.

For a client that has established a binding relationship, when requesting an IP address, the DHCP server preferentially assigns a bound IP address to it. As shown

below:

DCN	≔				China(CN) Fat M	ode - Route Mode a	dmin Logout
🔓 Running Status	Running Status	Static	IP Distribution ×				
E Setup Wizard	This page s	ets the s	tatic address assignment function of t	the DHCP server.			
AP Mode							
① Network Parameters		ID	MAC Address	IP Address	Status	Operation	
🛜 Wireless Settings		1	BC:B8:63:94:ED:29	192.168.1.104	Effective	Edit Delet	te
<sup>((</sup> 1 <sup>))</sup> Radio Settings	New Entry	D	isable Entry Enable Entry	Delete Entry Refresh	1		
DHCP Server							
DHCP Server							
🗕 Client List							
<ul> <li>Static IP Distribution</li> </ul>							
🖂 Statistics 🗸 🗸							
🔆 System Maintenance 🔻							

MAC Address: The MAC address of the client that will reserve the IP address.

IP address: Refers to the IP address reserved for the client.

Status: The status displays "Effective" or "Ineffective", that is, only binding

rules marked as "Effective" will take effect.

New Entry: Click this button, you can add a new reserved address entry in the

subsequent interface, as shown below:

Running Status	Static IP	Distribution ×				
This page s	sets the sta	tic address assignment fi	unction of the l	DHCP server.		
	ID	MAC Address	;	IP Address	Status	Operation
	1	BC:B8:63:94:ED:	29	192.168.1.104	Effective	Edit Delete
New Entry		This page sets the sta MAC Address• IP Address• Status•	BC:B8:63:94 192.168.1.10 Effective Save	ignment function of the DHC EED:29 04 Ineffective Return	P server.	

Enable Entry: Click this button to make the selected item effective.

Disable Entry: Click this button to invalidate selected items.

Delete Entry: Click this button to delete all entries in the table..

#### 5.7 System Maintenance

#### 5.7.1 IP Session Control

Click "System Maintenance"-"IP Session Control" on the left menu to enter the IP session control page, where you can set the number of TCP connections that each client can use simultaneously. If the number of connections reaches the specified number, the new TCP connections will be rejected. Note that closed TCP connections are not counted in the number of connections.

The default is 0, which means unlimited. As shown below:

DCN	≣
Running Status	Running StatusStatic IP Distribution $\times$ IP Session Control $\times$
Eo Setup Wizard	✓ IP Session Control Settings
AP Mode	This function is to limit the number of active TCP connections. The number of IP sessic
Wetwork Parameters	
Wireless Settings	IP Session Limits
<sup>((</sup> ) <sup>))</sup> Radio Settings	Save
DHCP Server	
Statistics -	
💥 System Maintenance 📥	
<ul> <li>Modify Password</li> </ul>	
<ul> <li>Configuration</li> </ul>	
Management	
– System Log	
– IP Session Control	

#### 5.7.2 Network Timing

Click "System Maintenance" >>" Network Timing", you can set NTP network time, turn on the off status and NTP server. It supports up to 4 NTP server settings. As shown below:

	DCN	≣		China(CN)
습	Running Status	Running Status Netwo	rk Timing $\times$	
Đ	Setup Wizard	✓ Network Timing		
88	AP Mode	Current Time:	2019-12-20 17:14:03	
۲	Network Parameters 🔻	Status	• On Off	
((î•	Wireless Settings	Time Zone	UTC+8(Beijing, CCT)	
((¶))	Radio Settings	NTP Server1	cn.ntp.org.cn	
	DHCP Server	NTP Server2	edu.ntp.org.cn	
~	Statistics 🔹	NTP Server3	hk.ntp.org.cn	
*	System Maintenance A	NTP Server4	tw.ntp.org.cn	
	Configuration		Save	
	Management			
_	System Log			

- Network Timing

#### **Appendix A FAQS**

# Question 1: How to restore the factory settings if the user forgets the device password?

Take WL8200-X10 as an example. In the power-on state, long press the Reset button for 5 seconds and release the reset button, the AP will restore the factory settings and restart. After restart, the user name and password are reset to the initial user name and password.

After restoring the factory settings, all settings will be deleted and restored to fit mode.

There may be differences between different products. For details, please refer to the product specifications.

Question 2: Can't open the device webpage using the default address of 192.168.1.10?

The address 192.168.1.10 is the default static address of the device. It may happen that the device webpage cannot be opened through this address in the following situations:

1. When the AP is in fit mode or fat bridge mode

(1) The device may have obtained another IP address through the POE port.

Please access it through the current address of the AP.

(2) The IP address of the device may be modified;

2. When the AP is in fat routing mode:

(1) The device used to access the AP is located on the WAN side of the AP.

Please access the AP from the lan side.

(2) The address on the LAN side of the device may have been modified by the administrator;

# Question 3: After switching from thefit mode or the fat bridge mode to the fat routing mode, the page cannot be returned, and refresh cannot be accessed?

When switching from other modes to routing mode to access the network, in order to ensure security, WAN-side device access is blocked by default. If the device is accessed from the POE port side before the switching, the switching will fail to return and cannot access. You need to ensure that you are accessing the device using https://192.168.1.10 on the LAN side or WLAN device.